UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
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7/13/2011

U.S. Army Corps of Engineers
Jacksonville District
Attn: Mr. Garett Lips
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, Florida 34410

Subject: **EPA's Comments on the Draft Environmental Impact Statement (DEIS) for the "St Lucie County (FL) South Beach and Dune Restoration Project, To Restore Recreational Beach, Restore Beach and Habitat, and Reduce Storm Damage Due to Beach Erosion" CEQ Number: 20110170; ERP Number: COE-E39084-FL**

Dear Mr. Lips:

Pursuant to Section 309 of the Clean Air Act (CAA) and Section 102(2)(C) of the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) Region 4 is pleased to offer our comments on the Draft Environmental Impact Statement (DEIS) for the "St Lucie County (FL) South Beach and Dune Restoration Project, To Restore Recreational Beach, Restore Beach and Habitat, and Reduce Storm Damage Due to Beach Erosion" dated May 2011. We understand that as part of the U.S. Department of the Army (DOA) Dredge and Fill Permit application process, the St. Lucie County Erosion District (the "County" or "Applicant") has submitted a Joint Coastal Permit (JCP) application for this project to the State of Florida Department of Environmental Protection (FDEP). The DOA authorization (if approved) would provide St. Lucie County with the necessary federal authorization to proceed with the project. As part of the permit process, the Corps has evaluated the environmental effects associated with beach nourishment and dune restoration and has prepared this DEIS.

EPA previously concurred with the Corps' decision to develop an EIS because of the extensive hardbottom resources immediately adjacent to the beach, as well as the very popular recreational uses of the beach. As requested by the Corps on 4/21/2010, the Federal Register published a Notice of Intent (NOI) to prepare the DEIS for the St. Lucie County South Beach and Dune Restoration Project located in St. Lucie County, Florida. Taylor Engineering, Inc., a contractor to the Corps for the EIS, mailed the NOI to interested and affected parties by letter dated 4/30/2010. The Corps and Taylor Engineering appropriately coordinated with the public and relevant federal, state, and local agencies. EPA notes that the DEIS includes summaries of issues of concern raised by respondents to the NOI and EIS scoping meetings held in May and June 2010 (the scoping period ended 20 June 2010). On 5/18/2011 EPA sent a letter to the Corps with

the following scoping comments for consideration by the Corps during the development of the DEIS, and we have included these as follows:

EPA's Previous (5/18/2010) Scoping Comments for Preparation of the DEIS:

1) One of EPA's primary concerns (then and now) relates to the project's impacts on the local hardbottom, which has reportedly been seasonally colonized by a reef building species (Phragmatopoma lapidosa) within 600 feet of the inter-tidal beach. EPA's goal is to keep all impacts to hardbottom to the minimum practicable, and we therefore recommended using an upland sand source as one way of minimizing impacts to the hardbottom areas and any coral colonies. If upland sources are not available, we recommended that the impacts to hardbottom should be limited to impacts from placement of any pipelines needed to transport material to the beach fill area.

2) EPA recommended that any evaluation of alternatives to the Proposed Action should include a ``No Action" alternative.

3) EPA recommended that any pipeline be trucked in to the site to eliminate any potential impacts to hardground resources should the pipe lose buoyancy. EPA also prefers that the dredge pipe selected should feature considerable structural integrity, ensuring the pipeline will not come loose during operations and can withstand considerable stress.

4) EPA recommended that the DEIS should include a proposed mitigation plan to offset identified hardbottom resource impacts.

5) EPA provided information on the State of Florida's threshold level for turbidity of 29 NTUs above background that may not be an acceptable value to use in coral reef areas. Scientific literature has documented that turbid waters can stress certain corals located in the project area at levels below the state standard of 29 NTUs above background (Telesnicki and Goldberg, 1995. Effects of Turbidity on the Photosynthesis and Respiration of Two South Florida Reef Species, Bulletin of Marine Science 57(2): 527-539). Based on this scientific literature, EPA believes a value of 15 NTU is a more appropriate threshold level to use as a water quality standard for sensitive resource areas in Southeastern Florida.

6) EPA recommended that the cumulative impact analysis for the DEIS should include past, present, and reasonably foreseeable future beach renourishment projects located in Southeastern Florida.

7) EPA recommended post-construction monitoring and that any loss of material during construction should be thoroughly investigated and appropriate remedies enacted. The Corps of Engineers should also ensure that the sedimentation and coral health monitoring programs are included in the DEIS. EPA requested that if there are any changes to these protocols as approved by NMFS-Protected Resources Division, we be informed.

8) EPA recommended that an intensive inspection program be employed to ensure that buffers between the hardbottom habitat and the edge of any prospective borrow site(s) is continually maintained.

9) EPA supported close monitoring of construction operations at the project site by an independent third party (not associated with the dredging contractor) to verify that turbidity levels are not exceeding the compliance standards established in the permit.

10) EPA supported the implementation of the NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions (dated March 23, 2006), as well as compliance with the Terms and Conditions established under the 1997 South Atlantic Regional Biological Opinion on hopper dredging.

11) EPA recommended that the DEIS should address consultation status under Section 7 of the Endangered Species Act and the Magnunson-Stevens Fishery Conservation and Management Act. The DEIS should also address compliance with the Section 404(b)(1) Guidelines of the Clean Water Act, Section 106 of the National Historic Preservation Act, Water Quality Certification pursuant to Section 401 of the Clean Water Act, and the determination of consistency with the Coastal Zone Management Act.

EPA Region 4 NEPA Program Office's Comments on the DEIS

- The coastline and barrier islands of St. Lucie County, Florida are very low in elevation and thus vulnerable to hurricane storm surge and other storm event damages. Historical problems along the project area include sand erosion and lowering of the beach profile with subsequent recession of the shoreline and dunes. EPA concurs with the Corps' Purpose and Need for the proposed project to restore the recreational beach, restore beach and dune habitat, and reduce storm damage due to beach erosion along the ocean shoreline of St. Lucie County. Hurricanes and severe "northeasters" have caused considerable erosion and damage to shoreline structures within the project area, and past erosion has made seawalls, buildings, and other structures vulnerable to severe storm damage. Consequently, the St. Lucie County Erosion District has proposed the St. Lucie County South Beach and Dune Restoration Project design (known in the DEIS as the County/Applicant's "preferred plan") as the plan to provide storm damage protection to structures threatened by chronic shoreline retreat and storm-induced beach erosion, as well as maintaining an area suitable for recreation and wildlife habitat.

- EPA understands that the Corps is also currently performing a feasibility study (known as the St Lucie County Florida Hurricane and Storm Damage Reduction Study Feasibility Report) for a potential federal project on the same shoreline areas. The DEIS we reviewed was prepared by the Corps' Regulatory Division for the County's project, but we understand it may also serve as part of the appropriate National Environmental Policy Act (NEPA) process for any future federally funded beach stabilization project(s) at this same project site.

- EPA concurs with the County's three current major objectives (e.g., benefits) stated in the DEIS, including: (1) re-establishing beaches as suitable recreational areas to maintain commerce associated with beach recreation in St. Lucie County; (2) maintaining suitable beach habitat for nesting sea turtles, invertebrate species, and shorebirds; and (3) reducing expected storm erosion damages to property and infrastructure. EPA also concurs with the Corps' consideration in the DEIS of possible adverse impacts to the beach, nearshore hardbottom resources, and offshore sand borrow area resources and adjacent habitat. EPA notes that the DEIS appropriately addresses these significant issues: potential direct short-term (construction related), indirect, and cumulative effects on protected species, water quality, essential fish habitat (EFH), fish and wildlife resources, benthic communities, sediment transport, wave modification, cultural and socioeconomic resources, and aesthetics and recreation.

- St. Lucie County has appropriately proposed measures to avoid and minimize impacts, and to mitigate for unavoidable impacts associated with obtaining offshore beach fill material and nourishing the project beach. Based on UMAM calculations prepared by the Applicant, mitigation for impacts of the Applicant's preferred plan to nearshore hardbottom will require that the Applicant construct 0.98 acres of nearshore artificial reef at one or more sites located along the project shoreline. The Final EIS should include copies of all UMAM score/data sheets.

- St. Lucie County has appropriately identified potential locations for artificial reef placement in the general project area approximately 15 feet (ft) of water and up to about 1,000 ft offshore. EPA recommends that before the Final EIS is issued, the Applicant and FDEP should resolve the final level of impacts and the level of mitigation required to offset all impacts identified by the state, and the Corps should then consider these as these findings become available.

- EPA believes that a biological monitoring plan should be used to assess success of the mitigation reef and direct, secondary, and long-term effects to nearshore hardbottom habitat associated with the proposed project. EPA continues to recommend that a sedimentation and turbidity monitoring plan be implemented to assess, avoid, and/or minimize impacts to reef communities adjacent to the proposed borrow areas during project construction.

- All final comments on the DEIS from the public and governmental agencies, especially the National Marine Fisheries Service (NMFS), FDEP, and the Florida Fish and Wildlife Conservation Commission (FWC), should be addressed and resolved prior to issuance of the Final EIS. If recommended for approval, the USACE Dredge and Fill Individual Permit and the FDEP Joint Coastal Permit (both now under review by the federal and state agencies and their commenting agency partners) should include the necessary general and specific conditions that St. Lucie County must follow to help minimize and avoid environmental impacts.

- This DEIS appropriately evaluates a range of nonstructural and structural measures to reduce beach, land, and property losses resulting from erosion, storms, and hurricanes along Hutchinson Island. The evaluations also appropriately considered the potential for each alternative to meet the county's project objectives and to maintain consistency with project constraints. A preliminary evaluation of each alternative determined whether an alternative would undergo further consideration and detailed evaluation. This DEIS appropriately considered the following alternatives in detail:

  1. No-Action Alternative (Status Quo)
  2. Beach Fill with No Impact to Existing Hardbottom
  3. Beach Fill to Restore the 1972 Beach and Dune
  4. Beach Fill to Restore the 1972 Dune with a 35-ft Berm
  5. Beach Fill to Restore the 1972 Dune with a 70-ft Berm
  6. South Segment Beach & Dune Restoration; North Segment Dune Restoration Only
  7. Beach and Dune Restoration with T-head Groins

- EPA notes that our Scoping Comment on evaluating the upland sand source alternative did not receive detailed evaluation for this proposed project. We understand that the potential impacts to the public and public infrastructure resulting from overland delivery of sand for a project of the proposed magnitude (610,000 cy), coupled with the potential for the project to extend beyond the proposed one-season schedule, as well as the greatly increased project cost for production and delivery of acceptable quality upland sand, were considered by the Corps to be a sufficient reason to eliminate the alternative from detailed consideration.

- EPA concurs with the Applicant's preferred alternative "Beach Fill to Restore the 1972 Dune with a 35-ft Berm from an offshore sand source" because it addresses the local planning objectives, anticipates beach erosion losses, and considers the needs of the study area. This measure also includes initial construction of a beach fill area of appropriate dimensions to serve as a buffer against wave attack.

EPA Region 4 Wetlands and Marine Regulatory Section's Comments on the DEIS

Summary, Alternatives (pg iv) The DEIS states that "The upland sand source alternative did not receive detailed evaluation for this project." The impacts to the sand borrow areas and their associated macro-invertebrate communities from the dredging operation may be more extensive and long-term than has been suggested in assessment for previous beach nourishment projects (USACE 1987, 1994, and 1996). These studies have concluded that perturbations within borrow areas are negligible due to rapid re-establishment of the infaunal communities. However, re-examination of the data from the borrow and reference areas of 4 beach renourishment projects on the southeast coast of Florida found that changes to the infaunal community structure may persist for 2-3 years or more (Wilbur and Stern 1992). Other studies have shown a decrease in diversity and abundance of the infaunal community in borrow areas several years following the dredging (Turbeville and Marsh 1982; Goldberg 1989). The impact that such projects have on macro-invertebrate communities should be considered as significant, because

they are either directly, or indirectly, a major portion of the diet for many fish and macrocrustaceans (Baird and Ulanowicz 1989). The State of Florida and the Florida Keys National Marine Sanctuary have prohibited the collection of "live sand" (i.e. sand material, typically containing a high diversity of algal, bacterial and macroinvertabrate species, used in the aquarium industry) within the Sanctuary, stating that the sand substrate is an important habitat for grazers and detritivores and the removal of this habitat was determined to adversely impact marine productivity, fisheries, wildlife habitat, and water quality (FDEP 1998). In view of the adverse effects this project may have on Essential Fish Habitat, EPA requests that the use of an upland sand source alternative for this project be re-evaluated.

2 Alternatives (pgs 19 to 26) Please include the life expectancy of each alternative in this section.

2.1.7 South Segment Beach and Dune Restoration: North Segment Dune Restoration Only (North Segment Restoration Only(pg 23-24) It appears through modeling that this alternative meets the project purpose while limiting hardbottom impacts to 0.07 acres. Therefore, EPA requests this alternative receive further evaluation in the Final EIS because the preferred alternative would impact 1.08 acres of nearshore hardbottom.

2.6.1.2 Nearshore Hardbottom (pg-53) The DEIS states 2008 aerial photographs were used to estimate the total amount of hardbottom impacts and in 2010 hardbottom community types were field identified. EPA questions whether the field survey conducted in 2010 reconfirmed the 2008 total amount of hardbottom resources located with the project area. If so, please report in FEIS. If not, please use other resources to identify the total amount of hardbottom located in the project area. EPA is aware that ocean dynamics have the ability to cover and uncover nearshore hardbottom and a review of 2008 aerial photographs may or may not identify the true impacts proposed by this project.

2.6.2.3 Nearshore Hardbottom (pg 60) The DEIS states, "The applicant is proposing a three-year monitoring period for nearshore hardbottom." EPA requests the standard monitoring period of 5-years be used for mitigation purposes.

Appendix D (pg 16) The DEIS states "Using the estimated maximum potential hardbottom impacts described in section 3.1, a UMAM analysis was conducted (Appendix C). EPA was not able to locate the UMAM data sheets anywhere within the DEIS or Appendices for review and comment.

References for EPA Region 4 Wetlands and Marine Regulatory Section's Comments

- Baird, D. and R.E. Ulanowicz. 1989. The season dynamics of the Chesapeake Bay ecosystem. Ecol. Monogr. 59:329-364.

- Florida Department of Environmental Protection (FDEP). 1998. Consolidated Notice of Denial for ERP Activities on Sovereign Submerged Lands. January 8,

1998. File Number 0128760-001.

- Goldberg, W.M. 1989. Biological effects of beach restoration in south Florida: the good, the bad, and the ugly. *In* Proc. 1988 National Conf. Beach Preserv. Technol. FL. Shore and Beach Preserv. Assoc., Tallahassee, FL. p. 19-27.

- Turbeville, D.B. and G.A. Marsh. 1982. Benthic fauna of an offshore borrow area in Broward County, Florida. U.S. Army Corps of Engineers Coastal Engineering Research Center. Misc. Rep. 82-1.p. 1-43.

U.S. Army Corps of Engineers (USACE), 1987. Design Memorandum Addendum I for Beach Erosion Control and Hurricane Protection. Dade County, Florida, North of Haulover Beach Park. Jacksonville, FL.

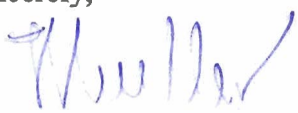
- U.S. Army Corps of Engineers (USACE), 1994. Palm Beach County, Florida, Shore Protection Project. General Design Memorandum For Jupiter/Carlin Segment. Jacksonville, FL.

- U.S. Army Corps of Engineers (USACE), 1996. Coast of Florida erosion and storm effects study: Region III with final environmental impact statement. Jacksonville, FL.

- **Wilber, P. and M. Stern. 1992. A re-examination of infaunal studies that** accompany beach renourishment projects. *In* S. Tait (ed.), Proc. 1992 National Conf. Beach Preserv. Technol., FL.
- Shore and Beach Preserv. Assoc., Tallahassee, Fl. p. 242-257.

Thank you, again, for the opportunity to comment on this Draft EIS. EPA rates this document as EC-2, meaning we have some Environmental Concerns and have requested additional information be included with the Final EIS. If you wish to discuss EPA's comments, please contact me at 404/562-9611 mueller.heinz@epa.gov), Ron Miedema at 561/616-8741(miedema.ron@epa.gov) in our South Florida office, or Paul Gagliano, P.E., at 404/562-9373 (gagliano.paul@epa.gov)

Sincerely,



Heinz J. Mueller, Chief
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cc: Ron Miedema, EPA Region 4 South Florida Office